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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,477	12/26/2001	Chang Goe Kim	2658-0279P	2997
2292	7590	01/15/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			AWAD, AMR A	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 01/15/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/025,477

Applicant(s)

KIM, CHANG GONE

Examiner

Amr Awad

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 8, 11-12, 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasui et al. (US patent NO. 5,784,039; hereinafter referred to as Yasui).

As to independent claim 1, Yasui (figures 1A, 1B and 2) teaches a power sequence apparatus comprising: a power supply (the power supply for generating VG1 through VGm+1) for simultaneously generating a gate high voltage ( $V_{GH}$ ) and a gate low voltage ( $V_{GL}$ ) (col. 5, lines 32-62). Yasui (figures 2A, 3B, 4A and 4B) teaches a device driving circuit sequentially supplying the gate high voltage ( $V_{GH}$ ) and then the gate low voltage to a device ( $V_{GL}$ ); and a voltage controller (the switch disposed between  $V_{GH}$  and

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$V_{GH}$  shown in figures 3A and 3B) disposed between the power supply and the device driving circuit, and processing the gate high voltage using a plurality of switching circuits (as can be seen in figures 3A and 3B; each gate line has its switch equivalent circuit) to supply the gate high voltage after the gate low voltage is supplied to the device driving circuit (col. 6, lines 7-67 and col. 9, lines 28-44).

As to independent claim 8, the claim is substantially similar to claim 1 and would be rejected as shown above with respect to claim 1. The claim further includes the limitation of timing control part for generating a switching control signal. As can be seen in figures 3A and 3B, Yasui shows the timing control shown by the controlling of switching between the high voltage gate and the low voltage gate based on the time period, which is fairly reads on the claimed limitation.

As to independent claim 12, the claim is substantially similar to claim 1 above except that claim 12 specifically recites that the device is part of a display panel that includes data driver. As can be seen in figure 1A, Yasui shows a display panel that includes a data driver (2) and a gate driver (3).

As to independent claim 17, the claim is substantially similar to claim 8 adding to it that claim 17 also recites a display panel with gate driver and data driver. As can be seen in figure 1A, Yasui shows a display panel with gate driver (2) and data driver (source driver 2).

As to claim 20, the claim is a method corresponds to apparatus of claim 1 and would be analyzed as previously discussed with respect to claim 1.

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As to claim 11, as can be seen from figure 2, the switching is applied after a driving power is supplied to the power supply and after the gate low voltage is supplied from the power supply to the device driving circuit (col. 4, line 66 through col. 5, line 62).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-7, 9-10, 13-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui in view of Lee (US Publication NO. 2001/0033266A1).

As to claims 2, 9, 13 and 18, as can be seen above with respect to claim 1, Yasui teaches all the limitations of claims 2, 9, 13 and 18 except the citation of first switching circuit disposed between the power supply and the device driving circuit, and a second switching circuit connected between the first switching circuit and a gate output line of the power supply.

However, Lee (figure 5) teaches an active matrix liquid crystal display that includes a voltage controller (46), low level gate voltage generator (40), high level voltage generator (44), first switch (39) connected between the power supply and the device driving circuit and a second switch (50) connected between the first switch and a gate low level voltage (page 4, paragraph NO. 37).

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Lee having two switching circuits arranged in the described manner, to replace the circuit of Yasui so as motivated by Lee, to eliminate flickering and residual images with a simplified circuit configuration (page 2, paragraph NO. 11).

As to claims 3 and 14, Lee (figure 7) shows a first resistor (R1) and a capacitor (C1) connected in parallel to the second switch (50) for switching the second switch according to a RC time constant (page 4, paragraph NO. 39), the second resistor (R2) shown in figure 10 connected between the second switching (50) and a ground voltage can be easily combined to figure 7 so as to be able to prevent a leakage of voltage to be charged (page 5, paragraph NO. 41).

As to claim 4, as can be seen above with respect to claim 3, Lee shows RC circuit (R1 and C1) connected between the second switching (50) and the power supply.

As to claim 5, it is apparent from figures 4 and 7 of Lee's the whole device is build on a single substrate which makes it obvious that the two switches are integrated into a single chip.

As to claims 6 and 15, the claims are broad enough that the wiring between the first and second switch in figure 5 of Lee's device can be considered the resistor which connects the first and the second switches.

As to claims 7, 10, 16 and 19, the transistor (MN) in figure 9 of Lee's device is part of the second switch.

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**Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsubara (US patent NO. 6,373,456) teaches a liquid crystal display has a drive circuit for applying a gate potential having a high and low potential settings.

Lee (US patent NO. 6,421,038) teaches a liquid crystal display that is adaptive for eliminating a flicker.


Nakajima et al. (US patent NO. 6,386,864) teaches a liquid crystal apparatus that includes a high and low gate voltages.

Sekine (US patent NO. 6,661,401) teaches a circuit for driving a liquid crystal display.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (703)308-8485. The examiner can normally be reached on Monday-Friday, between 9:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras can be reached on (703)305-9720. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4750.

  
1-8-04  
A.A.